



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/571,052	03/07/2006	Thomas Engel	2003P13506WOUS	9064
29177	7590	03/18/2009		
K&L Gates LLP				
P.O. BOX 1135				
CHICAGO, IL 60690				
EXAMINER				
ZAIDI, IQBAL				
ART UNIT		PAPER NUMBER		
2416				
MAIL DATE		DELIVERY MODE		
03/18/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/571,052

**Applicant(s)**

ENGEL, THOMAS

**Examiner**

IQBAL ZAIDI

**Art Unit**

2416

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 March 2006.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 13-24 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 13-24 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 07 March 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO/5508)  
Paper No(s)/Mail Date 03/07/2006  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1. The instant application having application No 10/571052 filed on 03/07/2006 is presented for examination by the examiner.

**Oath/Declaration**

2. The applicant's oath/declaration has been reviewed by the examiner and is found to conform to the requirements prescribed in 37 C.F.R 1.63.

**Information Disclosure Statement**

3. The information disclosure statement (IDS) submitted on 03/7/2006. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

**Claim Rejections - 35 USC § 103**

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 13-24** are rejected under 35 U.S.C 103(a) as being unpatentable over Callon et al (US 2002/0131362 A1, Sep 19, 2002) in view of Bragg et al (US 2003/0012145 A1, Jan 16, 2003)

Regarding **claim 13** Callon discloses sending a message[page 4, paragraph(0046), line 8-11, forwarding the link failure message to neighboring routers 50], which contains information relating to the failure of the segment[page 4, paragraph(0046), line 8-11, router adds the message to the link failure data store and forwarding the link failure message to neighboring routers 50], and by means of which the failed segment is disclosed to the second autonomous system[page 3, paragraph(0032), line 1-4, in the event of a link failure, router broadcast an update message instructing neighboring autonomous system (12D, 12B)], from the router to a second autonomous system[page 3, paragraph(0032), line 1-4, in the event of a link failure, router broadcast an update message instructing neighboring autonomous system (12D, 12B)]; and shutting down the inter-domain routes containing the segment by a router of the second autonomous system[page 3, paragraph(0032), line 1-4, in the event of a link failure, router broadcast an update message instructing neighboring autonomous system to withdrawn route (12D, 12B)].

Callon dose not disclose a method for shutting down inter-domain routes, comprising: establishing a failure of a segment connecting two autonomous systems by a router of a first autonomous system.

However Bragg discloses A method for shutting down inter-domain routes[page 1, paragraph(0026), line 1-6, upon the failure of any link between AS's lies on a selected route, the route is withdrawn completely], comprising: establishing a failure of a segment connecting two autonomous systems by a router of a first autonomous system[see Fig 2, and Fig 3, page 6, paragraph(0131), line 1-6, AS6 did not provide transit for some of AS7 under failure of the AS3-AS7 link].

Callon and Bragg are analogous art because they are from the same field of endeavor of access to a service device.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the apparatus of Callon to include the teaching of Bragg because it is providing data structure for representation of a composite route in a communication network; it improves important aspect of routing behavior in particular inter-domain routing behavior.

Regarding **claim 14** Callon discloses The method according to claim 13, wherein the message is sent directly from the router [page 1, paragraph (0003) line 7-10, the router forwards the packet (message)], or via one or more routers, to the second autonomous system [page 5, paragraph (0050), line 5-7, routers 4 elect to broadcast link failure information between autonomous systems].

Regarding **claim 15** Callon discloses The method according to claim 13, wherein the router of the second autonomous system sends a message that contains

information relating to the failure of the segment to at least one further adjacent autonomous system [page 3, paragraph (0032), line 1-16, in the event of a link failure, broadcast an update message instructing autonomous systems to withdraw route for example autonomous system 12F issue an update message to AS 12D and 12B].

Regarding **claim 16** Callon discloses The method according to claim 15, wherein the message is sent directly from the router of the second autonomous system [page 1 paragraph (0006), line 1-3, the routers recalculate their routing tables and send update messages to their neighbors], or via one or more further routers of the same autonomous system, to the further adjacent autonomous system [page 1 paragraph (0006), line 1-5, the routers recalculate their routing tables and send update messages to their neighbors, this process repeats itself and update information propagates until it reaches all of the routers within the network].

Regarding **claim 17** Callon discloses The method according to claim 13, wherein a message that contains information relating to the failure of the segment is transmitted to all autonomous systems that comprise at least one route containing the segment for routing data packets [page 4, paragraph (0043), line 14-17, all autonomous systems within the computer network are updated with the link failure information].

5. **Claims 18-20** are rejected under 35 U.S.C 103(a) as being unpatentable over Callon in view of Sees et al (WO97/01230 January 9, 1997)

Regarding **claim 18** Callon discloses "A method according to claim 13" as [(See rejection of claim 12.)].

Callon in view of Bragg fails to expressly disclose further comprising  
When the segment is returned to service, a message is sent to an autonomous system that has shutdown inter-domain routes containing the segment, the message containing information on the fact that the segment has been returned to service

However Sees discloses when the segment is returned to service[page 2, line 9-12, the self healing network distributed restoring algorithm restores traffic that has been disrupted by a fault], a message is sent to an autonomous system that has shutdown inter-domain routes containing the segment[page 13, line 14-16, once the original route restored, signals, in the form of message are sent for recordation], the message containing information on the fact that the segment has been returned to service[page 13, line 14-16, once the original route restored, signals, in the form of message are sent respectively from nodes to OSS 22 for recordation].

Callon and Sees are analogous art because they are from the same field of endeavor of access to a service device.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the apparatus of Callon to include the teaching of Sees because it is providing the network ability to perform restoration.

Regarding **claim 19** Callon discloses "A method according to claim 13" as [(See rejection of claim 13.)].

Callon in view of Bragg fails to expressly disclose further comprising  
When the segment is returned to service, a message is sent to all autonomous systems that shutdown inter-domain routes containing the segment and the message containing information on the fact that the segment has been returned to service.

However Sees discloses when the segment is returned to service[page 2, line 9-12, the self healing network distributed restoring algorithm restores traffic that has been disrupted by a fault], a message is sent to all autonomous systems that shutdown inter-domain routes containing the segment and the message containing information on the fact that the segment has been returned to service[page 13, line 14-24, once the original route restored, signals, in the form of message are sent respectively from nodes to OSS 22 recodation, the OSS 22 sends a command to revert the network back to the topology it had prior to the failure].

Callon and Sees are analogous art because they are from the same field of endeavor of access to a service device.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the apparatus of Callon to include the teaching of Sees because it is providing the network ability to perform restoration.

Regarding **claim 20** Sees discloses The method according to claim 18, wherein at least one autonomous system that has been informed about the return to service of



the segment returns the inter-domain routes containing the segment to service[page 13, line 14-24, once the original route restored, signals, in the form of alarm clearing message are sent respectively from nodes 4 and 8 to OSS 22 recordation, the OSS 22 sends a command to node 6 to disconnect the cross-connection between ports p1 to p3, for the alt route, thus to revert the network back to the topology it had prior to the failure].

Regarding **claim 21** Callon discloses The method according to claim 13, wherein the message containing the information about the failure of the segment is transmitted by an UPDATE message of the Border Gateway Protocol [page 1, paragraph (0004), line 1-12, the autonomous system exchange routing information according to a defined protocol such as Border gateway protocol (BGP)], when two autonomous system connected they exchange their entire BGP routing tables].

Regarding **claim 22** Callon discloses The method according to claim 21, wherein the message containing the information about the return to service of the segment is transmitted by an UPDATE message of the Border Gateway Protocol [page 1, paragraph (0004), line 1-12, the autonomous system exchange routing information according to a defined protocol such as Border gateway protocol (BGP)], when two autonomous system connected they exchange their entire BGP routing tables].

Regarding **claim 23** Callon discloses The method according to claim 21, wherein the segment is transmitted in the field of the UPDATE message[page 1, paragraph(0008), line 1-9, the BGP UPDATE message includes WITHDRAWN ROUTES field], which is provided per se for the transmission of routes, and specified by a PATH ATTRIBUTES parameter that a segment is involved[page 1, paragraph(0008), line 1-9, the BGP UPDATE message includes WITHDRAWN ROUTES field for listing routers are no longer available and that need to removed from routing tables].

Regarding **claim 24** Callon discloses "A method according to claim 13" as [(See rejection of claim 13.)]

However Bragg discloses wherein the first and second autonomous systems are IP (Internet Protocol) networks[page 1, paragraph(0012), line 1-3, the IP address space is reachable by the path defined, namely autonomous system path].

#### **Examiner Notes**

6. Examiner cites particular columns and line numbers in the references as applied to the claims below for the convenience of the applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested that, in preparing responses, the applicant fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the examiner

***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure are:

- Rajan et al. (US 2003/0099203, May 29, 2003) teaches Method and System for path Identification in Packet Network
- Bless et al. (US 2006/0159076, Jul. 20, 2006) teaches Rapid Response method for the failure of links between different routing domains

Any inquiry concerning this communication or earlier communications from the examiner should be directed to IQBAL ZAIDI whose telephone number is (571)270-3897. The examiner can normally be reached on 7:30a.m to 5:00p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, NGO RICKY can be reached on 571-272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Application/Control Number: 10/571,052

Page 11

Art Unit: 2416

Supervisory Patent Examiner, Art Unit 2416